



## User's Manual

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## 1. Specification

<b>Water Block</b>	Dimension	58mm(L) X 58mm(W) X 35mm(H)
	Material	All copper designed
	Tubing & Hoes Clip	For 9.5mm ID (3/8") tubing
	Weight	336(g)
<b>Pump</b>	Dimension	75(L) x 70(W) x 75(H) mm
	Bearing	Ceramic bearing
	Maximum Capacity	500 L/ hr
	Rated Voltage	DC 12V
	Input current	600 mA
	Connector	4 pin
	Noise	16 dBA
	Life time	80000 hr (MTBF)
<b>TMG Radiator</b>	Dimension	153(L) x 120(W) x 28(H) mm
	Material	Aluminum
	Tube Design	Aluminum , Dimple
	Fin Design	Aluminum , Louvered
	Tubing & Hoes Clip	For 9.5mm ID (3/8") tubing
<b>Fan</b>	Fan Dimension	120(L) x 120(W) x 25(H) mm
	Fan Speed	1300 ~ 2400 RPM
	Noise	16 ~ 30 dB
	Fan Connector	4 pin
<b>Liquid Tank</b>	Dimension	86(L) x 66(W) x 110(H) mm
	Capacity	350 c.c
	Tubing & Hoes Clip	For 9.5mm ID(3/8") tube
<b>iStripe</b>	Length	300 mm x2pcs
	Material	TPU
<b>Flow TX</b>	Dimension	60mm(H) x 35 mm (W) x 25 mm (D)
	Tubing & Hoes Clip	For 9.5mm ID(3/8") tube
<b>Tube</b>	Dimension	9.5mm ID(3/8") tube
	Material	Green UV
<b>Coolant</b>	Capacity	500 c.c
	Major Material Ingredient	Propylene Glycol
<b>Application</b>	CPU	AMD AM2/AM2+
		AMD K8
		Intel LGA775
		Intel P4

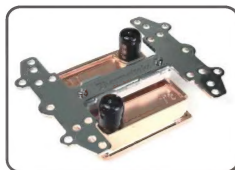
## 2.Components



P500 Pump & Liquid tank



12cm TMG Radiator with  
VR fan (1300~2400RPM)



All copper water block  
For Intel P4 775/ P4 478  
and AMD AM2/ AM2+/K8



Flow Tx

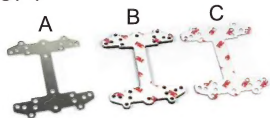


ID 9.5mm(3/8")UV sensitive  
Water Tube 400cm x 1



UV sensitive 500 cc  
Coolant x 1

### Bag(A)



**Clips for :**  
- Intel LGA 775 & P4 478  
- AMD AM2/AM2+ & K8  
A-Metal H-type clip  
B-Cushion  
C-Insulator



istripe 30cm x 2

### Bag(B)

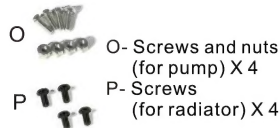


D-50mm screws x4  
E-Thumb nuts x4  
F-White washers x4  
G-Thermal compound  
H-38mm screws x4  
I -Stand offs x4  
J -Red washers x4

### Bag(C)



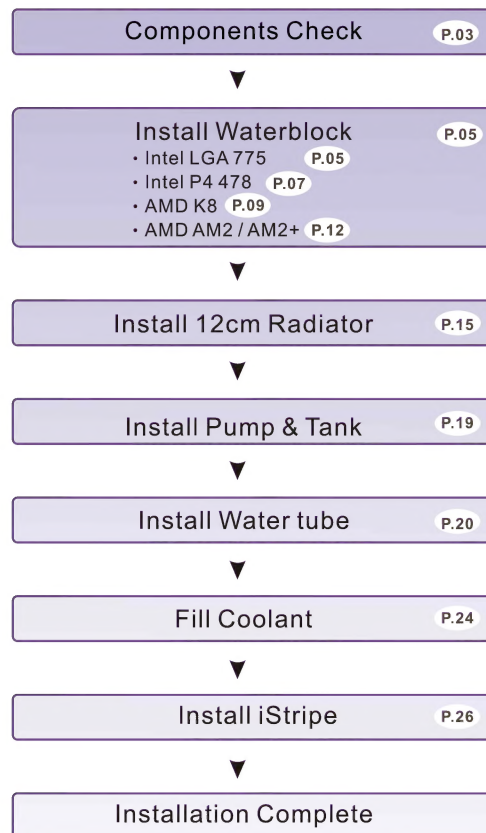
K-6mm Screws  
for PCI bracket x 2  
L-PCI bracket  
M-Velcro  
N-Hose Clips  
(for tube) x 10



O- Screws and nuts  
(for pump) X 4  
P- Screws  
(for radiator) X 4

## 3.Installation steps

We strongly suggest the following installation procedures.  
Failure to comply may result in leaks and damaged components.



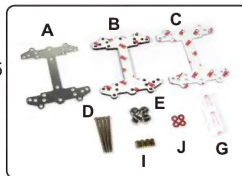
## 4. Install Waterblock

### 4-1 Intel LGA 775 - Secure Waterblock onto CPU

#### 4-1.1 Install the Clip on Motherboard



Intel LGA 775  
Motherboard



Components for  
LGA 775:

A-Metal H-type clip  
B-Cushion  
C-Insulator  
D-50mm screws  
E-Thumb nuts  
G-Thermal compound  
I-Stand offs  
J-Red washers



Tear off the tape on the back of the insulator (C) and place it on the metal H-type clip (A).



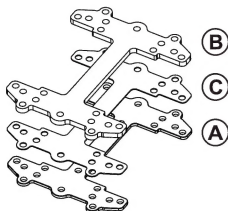
**Note:** Placing the cushion onto the motherboard with the adhesive will prevent you from removing the cushion in the future. If you are planning to remove the cushion for future use, please don't remove the protective tape.



Combine the insulator (C) and the cushion (B) using the adhesive. Stick the metal H-type clip (A) with the insulators (BC). Tear off the protective layer to adhere it onto the motherboard.

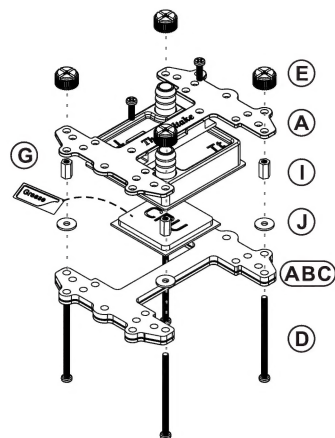


Attach H-type clips (including ABC) on the back side of motherboard.

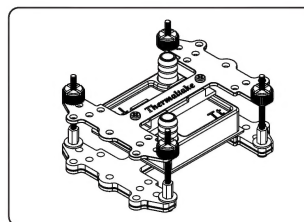


#### 4-1.2 Install Waterblock on Motherboard

Exploded View



Completed View



1. Insert the screws (D) through the clip (ABC) into the four holes on the Motherboard.
2. Put the washers (J) along the screws to prevent the electric current.
3. Put the stand offs (I) along the screws to fix the screws on the motherboard.
4. Apply a thin layer of thermal compound (G) onto the processor.
5. Place waterblock on the processor through the screws and fix it by thumb nuts (E).

**Note:**

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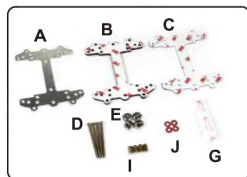


## 4-2 Intel P4 Socket 478 - Secure Waterblock onto CPU

### 4-2.1 Install the Clip on Motherboard



Intel P4 478  
Motherboard



Components for  
P4 478 :

- A-Metal H-type clip
- B-Cushion
- C-Insulator
- D-50mm screws
- E-Thumb nuts
- G-Thermal compound
- I -Stand offs
- J -Red washers



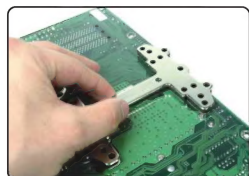
Tear off the tape on the back of the insulator (C) and place it on the metal H-type clip(A).



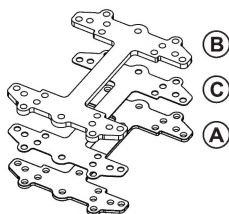
**Note:** Placing the cushion onto the motherboard with the adhesive will prevent you from removing the cushion in the future. If you are planning to remove the cushion for future use, please don't remove the protective tape.



Combine the insulator(C) and the cushion (B) using the adhesive. Stick the metal H-type clip(A) with the insulators (BC). Tear off the protective layer to adhere it onto the motherboard.

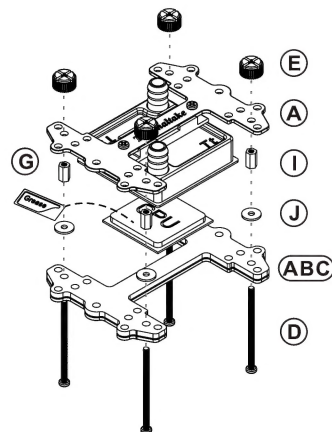


Attach H-type clips(including ABC)on the back side of motherboard.

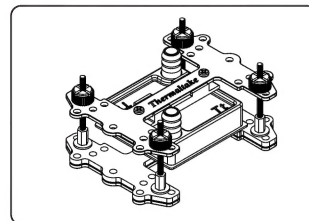


### 4-2.2 Install Waterblock on Motherboard

Exploded View



Completed View



- 1.Insert the screws (D) through the clip(ABC) into the four holes on the Motherboard.
- 2.Put the washers (J) along the screws to prevent the electric current.
- 3.Put the stand offs (I) along the screws to fix the screws on the motherboard.
- 4.Apply a thin layer of thermal compound(G) onto the processor.
- 5.Place waterblock on the processor through the screws and fix it by thumb nuts(E).

**Note:**

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### 4-3 AMD K8 Socket 754 / 939 / 940 - Secure Waterblock onto CPU

#### 4-3.1 Standard installation - Install waterblock by motherboard back plate

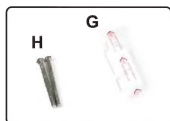
##### 4-3.1.1 Check The Back Plate



AMD K8  
Motherboard



Remove the retention  
frame from motherboard.



Components for  
AMD K8:  
G-Thermal compound  
H-38mm screws

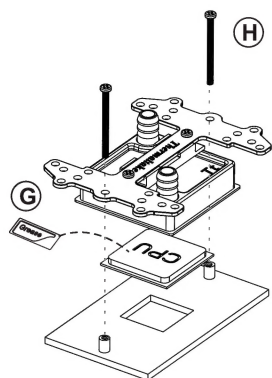


Check Your Back Plate!

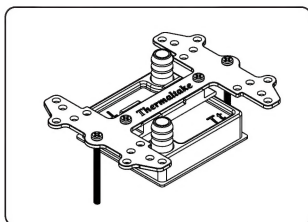
- If the back plate does have threaded standoffs, please continue with standard installation.
- If the back plate does NOT have threaded standoffs, please continue with 4-3.2.

##### 4-3.1.2 Install Waterblock on Motherboard

###### Exploded View



###### Completed View

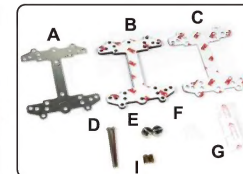


- Apply a thin layer of thermal compound(G) onto the processor.
- Place waterblock on the processor.
- Secure the waterblock on the motherboard by using screws(H).

### 4-3.2 Install waterblock by clips included in package

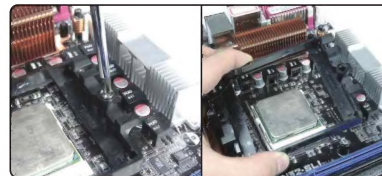
#### 4-3.2.1 Install the Clip on Motherboard

AMD K8 Motherboard



Components for  
AMD K8:

- Metal H-type clip
- Cushion
- Insulator
- 50mm screws
- Thumb nuts
- White washers
- Thermal compound
- Stand offs



Remove the retention  
module from the motherboard.



Remove the back plate on  
back side of motherboard.



Tear off the tape on the back of  
the insulator (C) and place it on  
the metal H-type clip(A).



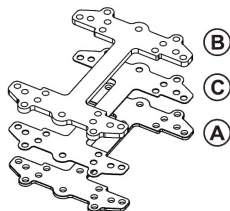
**Note:** Placing the cushion onto the motherboard with the adhesive will prevent you from removing the cushion in the future. If you are planning to remove the cushion for future use, please don't remove the protective tape.



Combine the insulator(C) and the cushion (B) using the adhesive. Stick the metal H-type clip(A) with the insulators (BC). Tear off the protective layer to adhere it onto the motherboard.

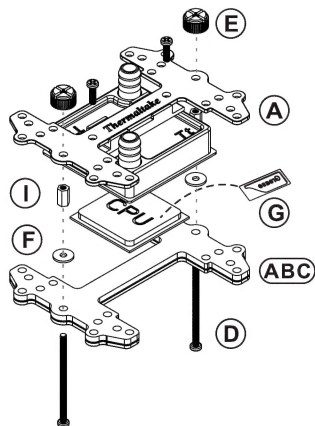


Attach H-type clips(including ABC)on the back side of motherboard.

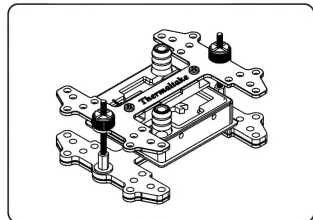


### 4-3.2.2 Install Waterblock on Motherboard

#### Exploded View



#### Completed View



- 1.Insert the screws (D) through the clip(ABC) into the two holes on the Motherboard.
- 2.Put the washers (F) along the screws to prevent the electric current.
- 3.Put the stand offs (I) along the screws to fix the screws on the motherboard.
- 4.Apply a thin layer of thermal compound(G) onto the processor.
- 5.Place waterblock on the processor through the screws and fix it by thumb nuts(E).

## 4-4 AMD Socket AM2/AM2+ - Secure Waterblock onto CPU

### 4-4.1 Standard installation - Install waterblock by motherboard back plate

#### 4-4.1.1 Check The Back Plate



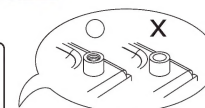
AMD AM2 Motherboard



Components for AMD AM2/AM2+:  
G-Thermal compound  
H-38mm screws



Remove the retention frame from motherboard.

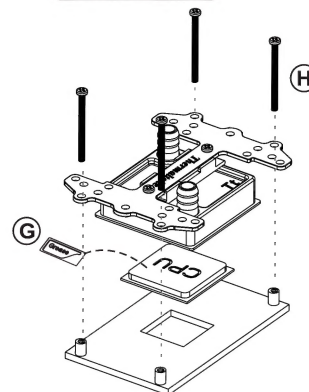


Check Your Back Plate!

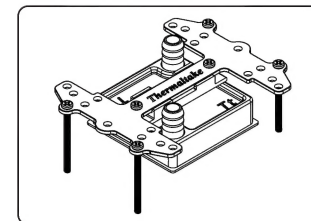
- A. If the back plate does have threaded standoffs, please continue with standard installation.  
B. If the back plate does NOT have threaded standoffs, please continue with 4-4.2.

#### 4-4.1.2 Install Waterblock on Motherboard

#### Exploded View



#### Completed View



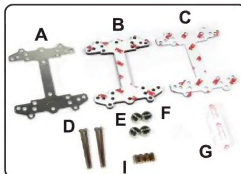
- 1.Apply a thin layer of thermal compound(G)onto the processor.
- 2.Place waterblock on the processor.
- 3.Secure the waterblock on the motherboard by using screws(H).



### 4-4.2 Install waterblock by clips included in package

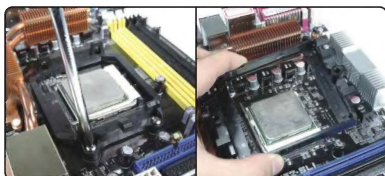
#### 4-4.2.1 Install the Clip on Motherboard

AMD AM2 Motherboard



Components for AMD AM2/AM2+ :

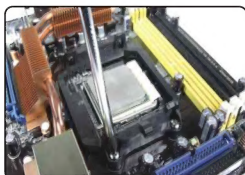
- A-Metal H-type clip
- B-Cushion
- C-Insulator
- D-50mm screws
- E-Thumb nuts
- F-White washers
- G-Thermal compound
- I-Stand offs



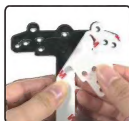
Remove the retention module from the motherboard.



Remove the back plate on back side of motherboard.



Tear off the tape on the back of the insulator (C) and place it on the metal H-type clip (A).



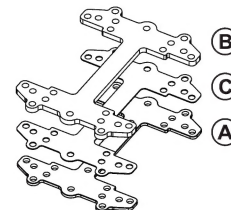
**Note:** Placing the cushion onto the motherboard with the adhesive will prevent you from removing the cushion in the future. If you are planning to remove the cushion for future use, please don't remove the protective tape.



Combine the insulator (C) and the cushion (B) using the adhesive. Stick the metal H-type clip (A) with the insulators (BC). Tear off the protective layer to adhere it onto the motherboard.

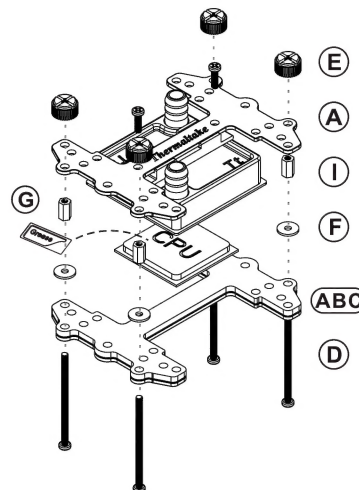


Attach H-type clips (including ABC) on the back side of motherboard.

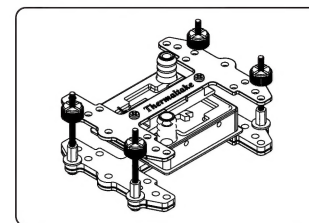


#### 4-2.2.2 Install Waterblock on Motherboard

Exploded View



Completed View



1. Insert the screws (D) through the clip (ABC) into the four holes on the motherboard.
2. Put the washers (F) along the screws to prevent the electric current.
3. Put the stand offs (I) along the screws to fix the screws on the motherboard.
4. Apply a thin layer of thermal compound (G) onto the processor.
5. Place waterblock on the processor through the screws and fix it by thumb nuts (E).



## 5. Install 12cm Radiator

Two options for installing the 120mm radiator. Before mounting the 120mm radiator, please check the dimension of back panel of your case first.

### Radiator clearance requirement:

155(L) x 125(W) x 65(H)mm



### 5-1. Option 1(Inside the case):

If the radiator fits onto your back panel without any interference, please choose option 1(5-1).



### 5-2. Option 2(Outside the case):

If there is interference between radiator and back panel of your case, please choose option 2(5-2).



#### Note:

It is fine to place the radiator upside down if necessary as it will not affect its cooling performance significantly.



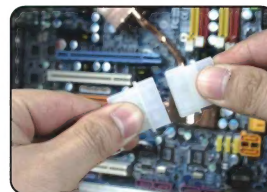
### 5-1 Option 1(Inside the case)



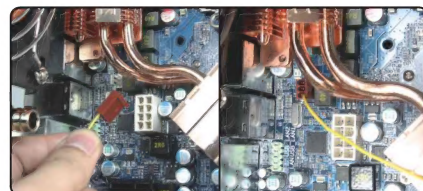
Remove the original fan module.



Install and secure Radiator module by screws(P).



Connect the 4-pin connector of 12cm fan to power supply.

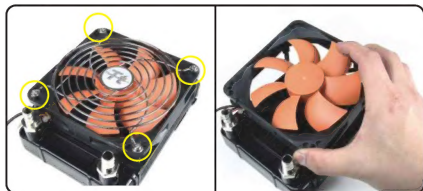


Connect the yellow wire(RPM signal) to the motherboard's fan connector.

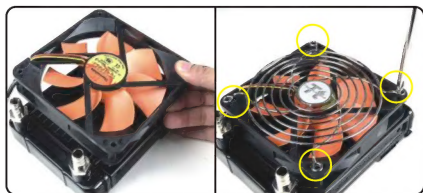
### 5-2 Option 2(Outside the case)



Remove the original fan module.



Unscrew the fan grill and the fan.



Reverse the fan and secure the fan grill and the fan by original screws.

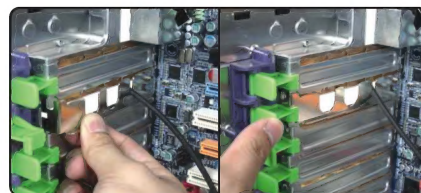
**Note:**  
Please note the direction of fan should be as shown.



Install and secure radiator module by screws(P).



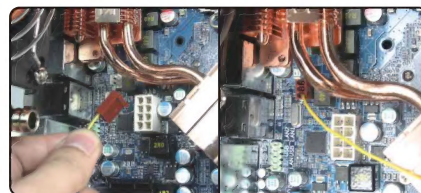
Installation complete.



Insert the wire from radiator to the PCI bracket. Replace the PCI bracket(L) bundled in the package to one of the free PCI slots and secure it by screw(K).



Connect the 4-pin connector of 12cm fan to power supply.



Connect the yellow wire(RPM signal) to the motherboard's fan connector.

**Note:**

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## 6. Install Pump & Tank

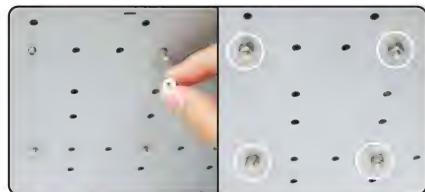
If there are mounting holes on the bottom of your case.  
You may proceed with the following steps to install the pump.



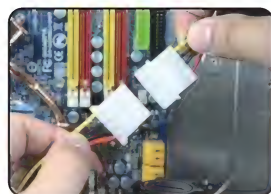
Finding the mounting holes to fit the stand of pump.



Insert the screws(O) through the holes of the stand as shown.



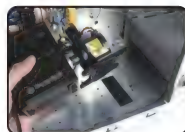
Insert the nuts and tighten them as shown.



Connect the 4-pin connector of pump to power supply.

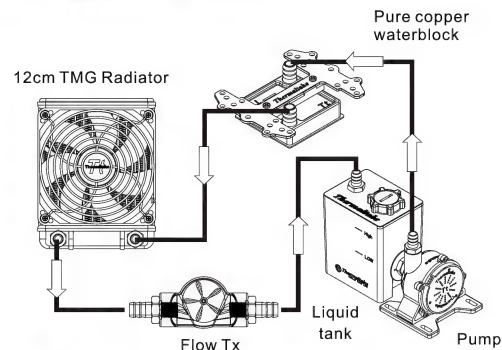


Installation complete.

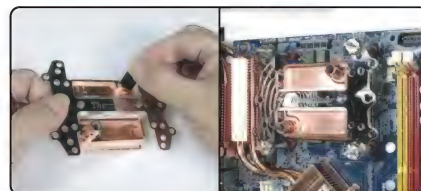


Note:  
If there are not mounting holes on your case, find a location in the case to safely position the pump and tank with the velcro(M).

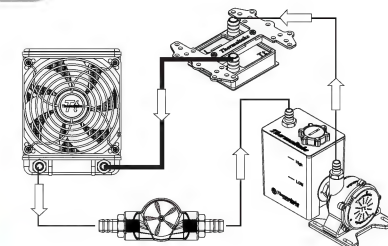
## 7. Install Water tube



### Connect Waterblock to Radiator

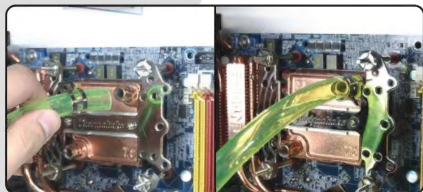


Remove black rubber caps from the waterblock.

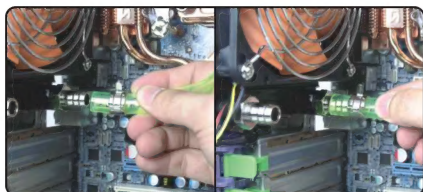


Insert the hose clip(N) through the tube.



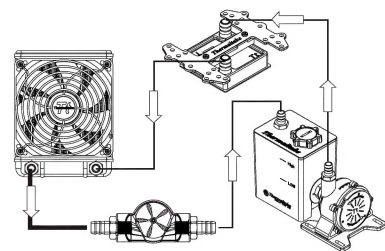


Connect the tube with the waterblock.  
Use pliers to tighten the hose clip(N).

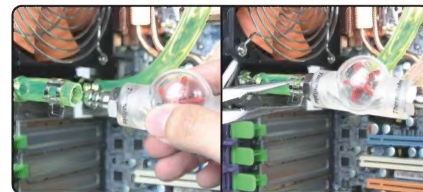


Insert the hose clip(N) through the tube.  
Connect the tube with the radiator from waterblock.  
Use pliers to tighten the hose clip(N).

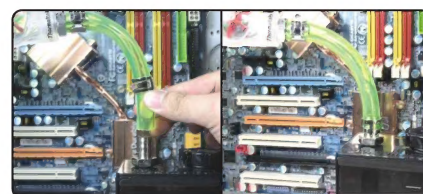
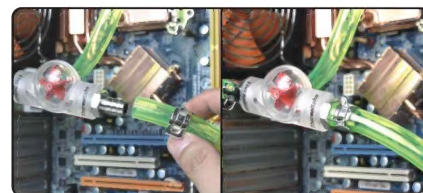
### Connect Radiator to Flow TX



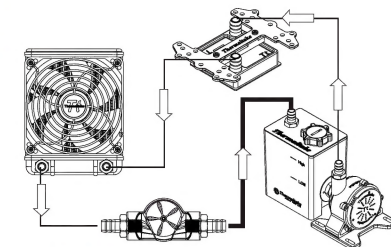
Insert the hose clip(N) through a tube.  
Connect the tube with the radiator.  
Use pliers to tighten the hose clip(N).



### Connect Flow Tx to Tank



Insert the hose clip(N) through the tube.  
Connect the tube with the Flow TX from radiator.  
Use pliers to tighten the hose clip(N).

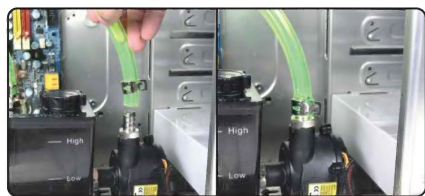
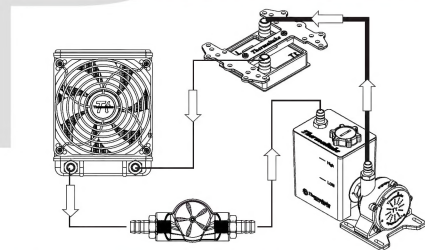


Insert the hose clip(N) through a tube.  
Connect the tube with the Flow TX.  
Use pliers to tighten the hose clip(N).

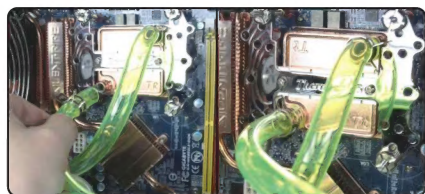


Insert the hose clip(N) through the tube.  
Connect the tube with the tank from Flow TX.  
Use pliers to tighten the hose clip(N).

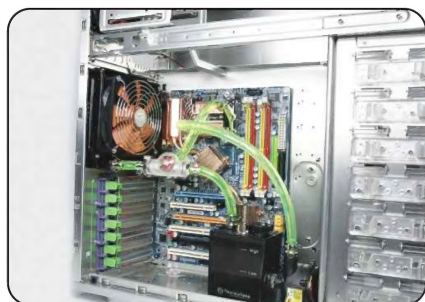
### Connect Pump to Waterblock



Insert the hose clip(N) through a tube.  
Connect the tube with the pump.  
Use pliers to tighten the hose clip(N).



Insert the hose clip(N) through the tube.  
Connect the tube with the waterblock  
from pump.  
Use pliers to tighten the hose clip(N).



Installation complete.

## 8. Fill Coolant



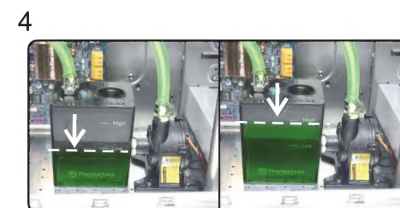
Open the cover of  
liquid tank.



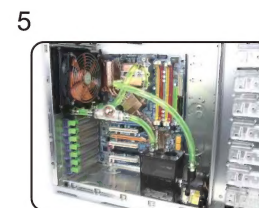
Fill the tank up with coolant.



Turn on the PC power switch.



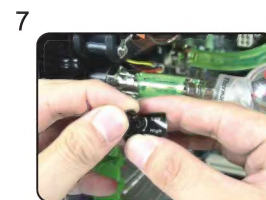
Liquid level will decrease when you  
power on the system, please keep filling  
coolant until the tank is filled up.



Please make sure liquid is  
flowing continuously and  
smoothly within the tube.



Close the cover  
of liquid tank.



Adjust the fan speed.



Turn off the PC power switch.

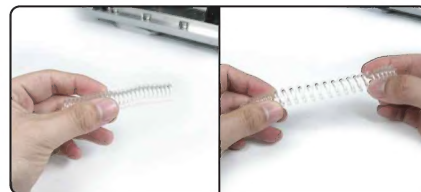


9

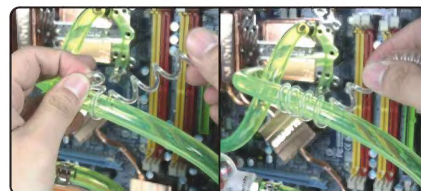


Installation complete

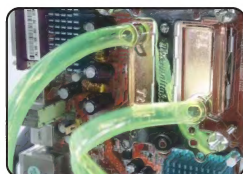
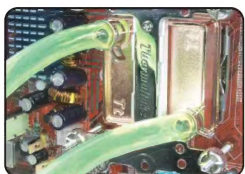
## 9. Install iStripe



First determine the length required for iStripe. Then cut the iStripe accordingly.



Entwine the iStripe around the UV tube in the same direction



### Note:

1. If bubbles are forming within the tubing, you may tap the tubing gently to remove them until all are gone.
2. After installation is completed, please ensure there are no bent tubings.



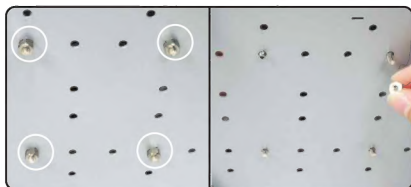
Installation complete



## 10. Uninstall The System



Turn off the PC power switch.



Loosen the nuts of pump.



Remove pump and tank from case.



Take the pump and tank apart to dispose the coolant to a container.



Please wipe the coolant on the pump and tank, especially the connection between the pump and tank.

Note: Please refer to previous installation instructions regarding the uninstallation procedures for other components.

## 11. Q & A

**Q: How often do I have to refill the system?**

**A:** Depending on the usage or surrounding environment, we strongly recommend checking the water level once a month to ensure optimal performance. If the liquid level is below the low level, please follow the installation steps(P.24) to refill the coolant.

**Q: How do I uninstall the liquid cooling system?**

**A :** There are no special instruction when un-installing. Please refer to installation and reverse the procedures.

**Q: Can I add another liquid cooling upgrade kits on my liquid cooling system?**

**A :** Yes, there are numerous upgrades available for all different components in PC. Please visit [www.thermaltake.com](http://www.thermaltake.com) for more information.

**Q: How do I know if the pump is working?**

**A:** Place your hand on the pump. If the pump is operating, the pump should vibrate gently.

**Q: I'm running low on coolant. What's happening and what can I do?**

**A:** The Performance Coolant included with PW 850i contains water based material so it is subject to natural evaporation. It is normal for the coolant to decrease depending on the usage or surrounding environment. For best performance, we highly recommend replacing the coolant every 6 month.